OXC-0159
2 of 2

DOC. NO. 85
TOTAL PAGES 4
COPY 3 OF 5

4 December 1959

Dear Jim,

At the request of Project Headquarters, we are sending you the enclosed reports and technical data. It is my understanding that Mr. B desires your review of our technical conclusions.

To save you time, the technical contents of these enclosures are:

1 - Document 84 (Section II only).
Description of the proposed "S"-System.

2 - Document 69
Comparison and description of four restricted coverage systems proposed in October. (First two pages especially.)

3 - Document 62, Engineering Report 5518
Our judgement evaluation of significant aspects of three of the four systems, which led to the old recommendation of the 24S system. (Pages 1-3 especially).

4 - Document 72, Engineering Report 5530 (excluding pages 3-7)
Our final technical report on the study phase. Pages 8-11 for general data, pages 109-119 for IMC, and pages 90-93 for window.

(I think the power spectrum analyzer, pages 100-108, will be of professional interest to you.)

5 - Document 57, Engineering Report 5506 (pages 5-6 only)
Our conclusions on aerodynamic and atmospheric seeing.

Lloyd has traced about 375 rays thru on a 24" version of the system. For an f/3.6 portion of an f/1.5 aperture, 86% of the spots were within 5μ at the extreme field angle, 10.7°. (See attached sketches.) Using an f/3.6 portion of an f/1.7 aperture produces a negligible image improvement, giving 91% in the 5μ circle, and considerably complicates the opto-mechanical layout. Therefore, we plan to cut our f/3.6 portions from f/1.5 plates.

The insertion of curtains in the outer window gap will probably permit us to use only one gold coat, but we are still not certain of this. In any event, we will make a serious effort to reduce the exposure time, since it is relatively long.

If you have any questions, either Rod or I will be glad to talk with you. Thanks very much.

Best regards,

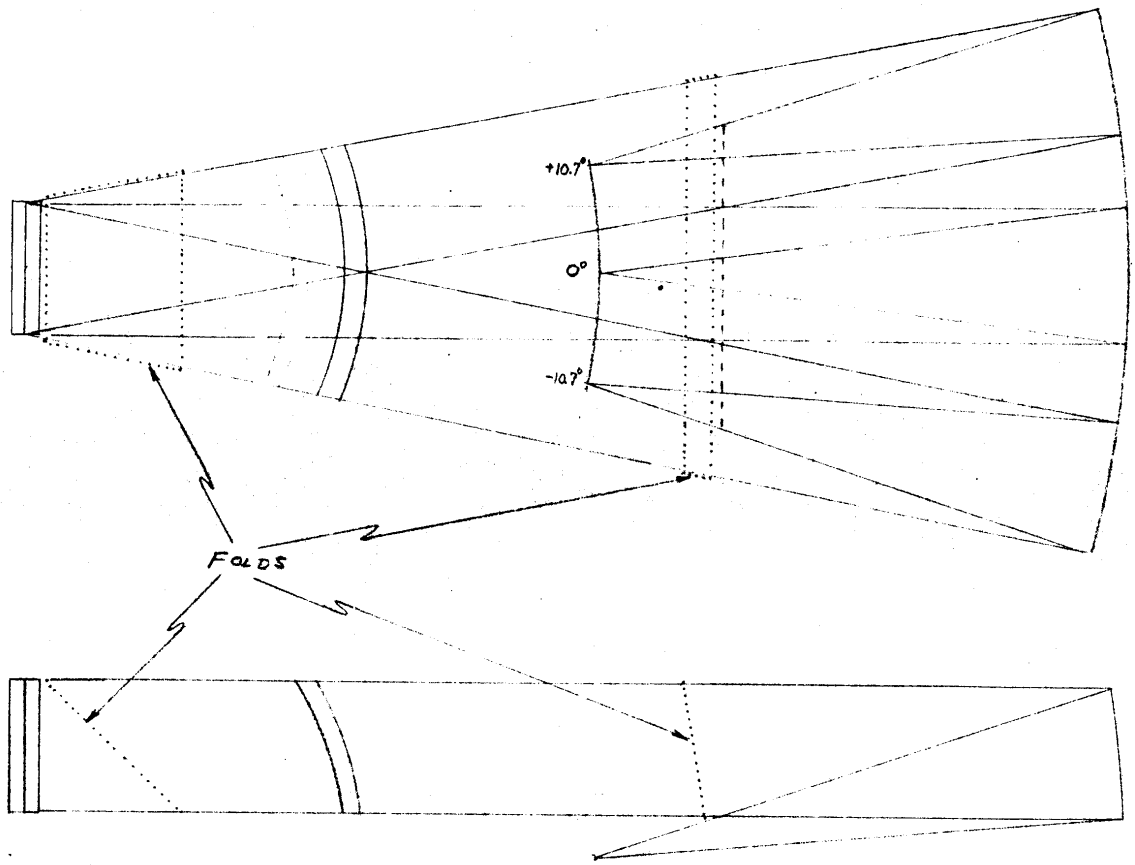
[redacted]

STATINTL

MDR:mb

enclosures

cc: EPK
LEW
RMS
File



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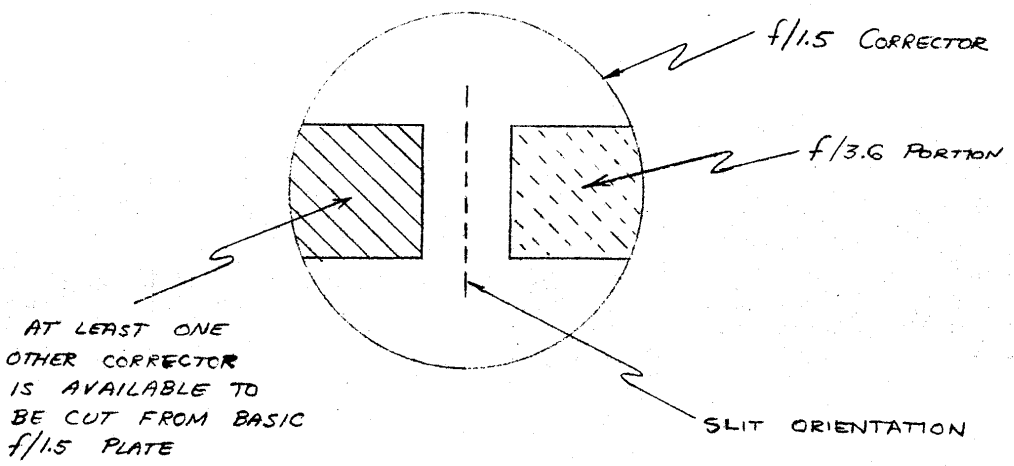
SCALE = 1/5

18" f/4 (f/3.6 EFFECTIVE)

MDR 2 Dec 59



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CORRECTOR PLATE FOR 18" [redacted]

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MDR 2 Dec 59